LIBRARY
FISH & WILDLIFE SERVICE
PACIFIC OCEANIC FISHERY
INVESTIGATIONS
FEB 18 1952

# STANFORD ICHTHYOLOGICAL BULLETIN

VOLUME 3

Comprising 4 numbers, 10 articles, 208 pages,
56 figures, 1 table, and 1 map

Published by the

NATURAL HISTORY MUSEUM OF STANFORD UNIVERSITY

Stanford, California, U. S. A.

1944-1950

NOTE

The Editors hereby affirm that copies of each of the six numbers of Volume 2 were mailed, on or before the imprinted dates of publication, to the chief zoological, ichthyological or natural history museum libraries of San Francisco, Berkeley, Seattle, Chicago, Ann Arbor, Cambridge, New Haven, New York, Philadelphia, Washington, Rio de Janeiro, La Plata, London, Leningrad, Cape Town, Calcutta, Sydney and Honolulu, and to the editors of *Science* and *Nature*. At the same time copies were placed on public sale at the Natural History Museum. The remainder of the copies distributed directly by the Museum were mailed upon or within a few days of the publication dates. Copies distributed through the Stanford University Library were frequently delayed for a short time.

Volume 3 edited by G. S. Myers and Margaret Storey.

CONTENTS

BOLIN, ROLF LING
The evolution of the marine Cottidae of California, with a discussion of the genus as a systematic category. Issued August 25, 1947.....153-168
Lantern fishes from "Investigator" Station 670, Indian Ocean. Issued May 21, 1946.....137-152
A review of the marine cottid fishes of California. Issued October 27, 1944..... 1-135

BOLIN, ROLF LING, and MYERS, GEORGE SPRAGUE
Station records of the Crocker-Stanford deep-sea expedition, coast of California, September 1938. Issued August 21, 1950...203-208

FERNANDEZ-YEPEZ, AGUSTIN
A revision of the South American characid fishes of the genus Carnegiella. Issued August 21, 1950.....169-181

HERRE, ALBERT WILLIAM CHRISTIAN THEODORE
A new name for Hanno, a genus of African gobies. Issued August 21, 1950..... 198

MYERS, GEORGE SPRAGUE
Identity of the stromateid fish Centrolophus californicus with Icichthys lockingtoni. Issued August 21, 1950..... 181
Studies on South American fresh-water fishes. II. The genera of anostomine characids. Issued August 21, 1950.....184-198
Supplementary notes on the flying characid fishes, especially Carnegiella. Issued August 21, 1950.....182-183

MYERS, GEORGE SPRAGUE, and BÖHLKE, JAMES
A new lump-sucker of the genus Eumicrotremus from the northwestern Atlantic. Issued August 21, 1950.....199-202

INDEX TO VOLUME 3

New taxonomic names are marked with an asterisk (*).


Abramites, 186, 193
Abramites, body angle at rest, 193
Abramites hypselonotus, 193
Abramites microcephalus, 193
acanthias, Dolopichthys, 206
Acanthocottus profundorum, 94, 95
acuticeps, Blennicottus, 84
acuticeps, Clinocottus, 73, 84, 130, 156, 163, 164, 168
acuticeps, Oligocottus, 84
acuticeps, Oxycottus, 84
affine, Myctophum, 139
affinis, Leporinus, 197
Africa, 198
Agonidae, 157
alaskanus, Oligocottus, 65
Alcidea, 11
Alcidea thoburni, 11
aliciae, Diaphus, 144
Allartedius, 53
Allartedius corallinus, 53
Allocottus, 76, 168
Allocottus embryum, 78
Amazon, 169, 184
anal is, Centridermichthys, 73
anal is, Clinocottus, 1, 72, 73, 127, 154, 156, 163, 164, 166, 168
anal is, Clinocottus analis, 73
anal is, Oligocottus, 72, 73
andersoni, Diaphus, 144
Anostoma, 191
Anostominae, 184
Anostominae, key to genera, 185
Anostominae, systematic difficulty, 184
Anostomoides, 198
Anostomoides atrianalis 185, 198
Anostomus, 186, 188, 191
Anostomus, key to species, 191
Anostomus anostomus, 191, 192
anostomus, Anostomus, 191, 192
Anostomus gracilis, 192
Anostomus knerii, 196
Anostomus pearsoni, 197
Anostomus plicatus, 192
anostomus, Salmo, 191
Anostomus trimaculatus, 192
Anostomus ucayalensis, 192
argenteo-fuscus, Rhytiodus, 193
Argentina, 184
armatus, Centridermichthys, 97
armatus, Leptocottus, 1, 96, 97, 133, 156, 157
Artedius, 5, 41, 53, 156, 161, 162, 165, 167
Artedius, key to the California species, 42
Artedius asperulus, 48
Artedius corallinus, 43, 53, 121, 156, 162, 163
Artedius creaseri, 42, 43, 119, 156, 161, 163, 164
Artedius delacyi, 156, 162
Artedius fenestralis, 42, 48, 120, 156, 161, 163
Artedius hankinsoni, 43, 57, 122, 156, 162, 163
Artedius harringtoni, 42, 45, 120, 156, 161, 163, 164
Artedius lateralis, 43, 55, 122, 156, 162
Artedius megacephalus, 20
Artedius notospilotus, 42, 48, 50, 121, 156, 161, 163
Artedius pugetensis, 19
Artedius pugettensis, 19
Artedius quadriseriatus, 22, 35
Ascelichthys, 5, 88, 156
Ascelichthys rhodorus, 88, 131, 156
asperulus, Artedius, 48
Aspicottus, 90, 156, 158
Aspicottus bison, 90, 91, 93
Aspicottus taurinus, 93
Aspidocottus, 90
Aspidocottus bison, 91
asprellus, Radulinus, 37, 38, 40, 119, 156, 159
Astrolytes, 48, 156, 161
Astrolytes fenestralis, 48
Astrolytes notospilotus, 48, 50
Atlantic, northwestern, 199
atrianalis, Anostomoides, 185, 198
australis, Clinocottus, 73
australis, Clinocottus analis, 73
australis, Leptocottus armatus, 97
Axyrias, 45, 156, 161, 162
Axyrias harringtoni, 45

bathybius, Zesticelus, 156, 158
Benthosema fibulata, 139
Benthosema pinchoti, 140
Berry, S. S., 203
bilobus, Blepsias, 99, 156, 157
binoculata, Raja, 206
bison, Aspicottus, 90, 91, 93
bison, Aspidocottus, 91

bison, Enophrys, 91, 93, 132, 156, 158
bison, Euophrys, 91
bidens, Gnathodolus, 187, 188, 189
Blenicottus globiceps, 81
Blennicottus, 2, 76, 156, 163, 166, 167, 168
Blennicottus acuticeps, 84
Blennicottus embryum, 78
Blennicottus globiceps, 79, 81
Blennicottus globiceps bryosus, 81
Blennicottus recalvus, 76, 79
Blepsias, 4, 99, 156, 157
Blepsias bilobus, 99, 156, 157
Blepsias cirrhosus, 99, 134, 156, 157
Blepsias cirrhosus draciscus, 99
Blepsias draciscus, 99
Blepsias trilobus, 99
Blepsias oculo-fasciatus, 102
Blepsias ventricosus, 13, 17
Blepsiidae, 3
Body angle at rest, Abramites, 193
Böhlke, J., 199
boleoides, Radulinus, 38, 118, 156, 159
Bolin, R. L., 1, 137, 153, 203
Bolin and Myers, 203
Bolivia, 184
borealis, Icelinus, 156, 160
borealis, Oligocottus, 65
borellii, Nanognathus, 195, 196
brachycephalus, Diaphus, 144
Brazil, 169, 184
*brunneus, Leporinus, 194, 195
bryosus, Blennicottus globiceps, 81
bubalis, Cottus, 91
bubalis, Enophrys, 156, 158
burchami, Icelinus, 23, 19, 30, 116, 156, 160

Calhoun, A., 203
California, 181, 203
California Cottidae, 1, 153
California marine cottids, 1
California marine cottids, phylogenetic tree, 156
californicus, Centrolophus, 181
Calycilepidotus, 13
Calycilepidotus lateralis, 50
Calycilepidotus spinosus, 13, 15
Carnegiella, 169, 182
Carnegiella, distribution map, 176
Carnegiella, flying habits, 182
Carnegiella, habitat of, 182
Carnegiella, key to species, 174
Carnegiella, systematic notes on, 183
Carnegiella fasciata, 172, 175, 180, 183
Carnegiella marthae, 173, 174, 177, 178, 183
*Carnegiella myersi, 172, 174, 175, 183
*Carnegiella schereri, 173, 174, 178, 183
Carnegiella strigata, 172, 175, 179, 180, 183
cavifrons, Icelinus, 23, 28, 116, 156, 160
cavifrons, Tarandichthys, 28
Centridermichthys analis, 73
Centridermichthys armatus, 97
Centridermichthys globiceps, 79
Centridermichthys maculosus, 65
Centrolophus californicus, 181
Cephaloscyllium uter, 204
Ceratocottus, 90
Characidae, 169, 182, 184
Characidium, 196
Characters, generic, 166
Chauliodus macouni, 208
chavesi, Lampadena, 145
Chitonotus, 5, 19, 156, 160, 161
Chitonotus megacephalus, 19
Chitonotus pugetensis, 19, 20, 113, 156, 160
Chitonotus pugettensis, 19
*cingulatus, Synaptolaemus, 188, 190
cirrhosus, Blepsias, 99, 134, 156, 157
cirrhosus, Trachinus, 99
Citharichthys sordidus, 205
claviger, Cottus, 90
Clinocottus, 5, 72, 73, 156, 162, 163, 164, 165, 166, 167, 168
Clinocottus, key to the California species, 72
Clinocottus acuticeps, 73, 84, 130, 156, 163, 164, 168
Clinocottus analis, 1, 72, 73, 127, 154, 156, 163, 164, 166, 168
Clinocottus analis analis, 73
Clinocottus analis australis, 73
Clinocottus australis, 73
Clinocottus embryum, 73, 78, 128, 156, 163, 164, 166, 168
Clinocottus globiceps, 73, 81, 129, 156, 163, 166, 168
Clinocottus recalvus, 73, 79, 128, 156, 163, 166, 168
Clypeocottus, 90
Clypeocottus robustus, 90, 91
Cololabis, 205, 207
Colombia, 169, 184
corallinus, Allartedius, 53
corallinus, Artedius, 43, 53, 121, 156, 162, 163

orti, Schizodon fasciatus, 196
Cotti, 3
Cottidae, 1, 3, 153
Cottoidae, 3
Cottoideae, 3
Cottoidei, 3
Cottus, 4
Cottidae, convergent evolution, 154
Cottidae, evolution, 153
Cottidae, key to the genera, 4
Cottidae, most conservative species, 155
Cottidae, primitive characters, 153
Cottidae, systematic history, 166
Cottus bubalis, 91
Cottus claviger, 90
Cottus criniger, 73
Cottus diceraus, 90
Cottus hemilepidotus, 13, 17
Cottus hirundo, 86
Cottus trachurus, 17
creaseri, Artedius, 42, 43, 119, 156, 161, 163, 164
crenularis, Tarletonbeania, 208
criniger, Cottus, 73
Crocker, Templeton, 203
Crocker-Stanford, stations, 203
Cyclopteridae, 199

Deep-sea, station records, 203
delacyi, Artedius, 156, 162
derjugini, Eumicrotremus, 199, 201
desmotes, Leporinus, 193
Dialarchus, 65
Dialarchus snyderi, 65, 67
Diaphus species, 137
Diaphus aliciae, 144
Diaphus andersoni, 144
Diaphus brachycephalus, 144
Diaphus holti, 144
Diaphus kendalli, 144
Diaphus layi, 144
Diaphus longleyi, 144
Diaphus molli, 144
Diaphus nanus, 144
Diaphus parri, 144
Diaphus rafinesquii, 144
Diaphus regani, 143
Diaphus richardsoni, 144
Diaphus signatus, 143
Diaphus splendidus, 143
Diaphus theta, 144
diceraus, Cottus, 90
diceraus, Enophrys, 156
Diogenichthys laternatus, 141, 142
Diogenichthys panurgus, 140
dissimilis, Schizodon, 196
Dolopichthys acanthias, 206
draciscus, Blepsias, 99
draciscus, Blepsias cirrhosus, 99

Ecuador, 169, 184
ecuadoriensis, Leporinus, 195
elongatus, Schizodon, 193
embryum, Allocottus, 78
embryum, Blennicottus, 78
embryum, Clinocottus, 73, 78, 128, 156, 163, 164, 166, 168
embryum, Oligocottus, 76, 78
embryum, Oxycottus, 78
Enophrys, 4, 90, 156, 157, 158, 164
Enophrys, key to the California species, 91
Enophrys bison, 91, 132, 156, 158
Enophrys bubalis, 156, 158
Enophrys diceraus, 156
Enophrys lucasi, 156
Enophrys namiyei, 156
Enophrys taurinus, 91, 93, 132, 156, 158
Eumicrotremus derjugini, 199, 201
Eumicrotremus orbis, 201
Eumicrotremus spinosus, 199, 201
*Eumicrotremus terrae-novae, 199, 200
Eumicrotremus variabilis, 202
Euophrys bison, 91
Evolution, marine Cottidae, 153
exilis, Lyopsetta, 207
Eximia, 65
Eximia rubellio, 65, 70
Exocoetidae, flying of, 182

fasciata, Carnegiella, 172, 175, 180, 183
fasciata, Laemolyta, 197
fasciatus, Gasteropelecus, 179, 180, 183
fasciatus, Leporinus, 195
fasciatus, Salmo, 193
fasciatus, Schizodon, 195, 196
fenestralis, Artedius, 42, 48, 120, 156, 161, 163
fenestralis, Astrolytes, 48
fenestralis, Icelus, 48
Fernandez-Yepez, 169, 190
*fernandezi, Laemolyta, 197
fibulata, Benthosema, 139
fibulatum, Myctophum, 139
fibulatum proximum, Myctophum, 140
filamentosis, Tarandichthys, 24
filamentosus, Icelinus, 23, 24, 114, 156, 160
filamentosus, Tarandichthys, 24
fimbriatus, Icelinus, 23, 31, 32. 117, 156, 160
Flying fishes, 182

*fraser-brunneri, Lampanyctus, 149 150, 151
frenatus, Xantocles, 205
friderici, Leporinus, 195
fuscescens, Icelinus, 30

Galeorhinus zyopterus, 204
garmani, Laemolyta, 197
Garmanina, 193
Gasteropelecinae, flying habits, 182
Gasteropelecus, habits, 183
Gasteropelecus fasciatus, 179, 180, 183
Gasteropelecus strigatus, 179, 183
Genera, philosophy of, 164
Generic characters, 166
Genus, description and discussion, 164
Genus, systematic category, 153
Genyonemus lineatus, 207
Girella, 205
globiceps, Blenicottus, 81
globiceps, Centridermichthys, 79
globiceps, Clinocottus, 73, 81, 129, 156, 163, 166, 168
globiceps, Oligocottus, 76, 79, 81, 84
Gnathodolus, 185, 187
Gnathodolus bidens, 187, 188, 189
gibbsii, Hemilepidotus, 17
gilberti, Hemilepidotus, 156, 159
Gill, Theodore N., 153, 166, 167, 168
Gobiidae, 198
Gosline, W. A., 203
gracilis, Anostomus, 192
Greeleya, 65
Greeleya rubellio, 70
Greeleya rugellio, 70
gronoveii, Mormyrhynchus, 191
Guiana, 169, 184

hankinsoni, Artedius, 43, 57, 122, 156, 162, 163
hankinsoni, Parartedius, 53, 57
Hanno, 198
*Hannoichthys, 198
harringtoni, Artedius, 42, 45, 120, 156, 161, 163, 164
harringtoni, Axyrias, 45
heathi, Vampyroteuthis, 203, 204
Hedgpeth, J., 203
Hemilepidotus, 4, 13, 154, 156, 158, 159, 161, 163
Hemilepidotus, key to the California species, 15
hemilepidotus, Cottus, 13, 17
Hemilepidotus gibbsii, 17
Hemilepidotus gilberti, 156, 159
Hemilepidotus hemilepidotus, 15, 17, 112, 156, 157
hemilepidotus, Hemilepidotus, 15, 17 112, 156, 157
Hemilepidotus jordani, 156, 159
Hemilepidotus nebulosus, 50
Hemilepidotus spinosus, 15, 111, 156, 159
Hemilepidotus tilesii, 17
Hemilepidotus trachurus, 17
Hemilepidotus zapus, 156, 159
Hemitripteras, 6
Hemitripterus, 6
Herald, E. S., 203
Herre, A. W., 198
hirundo, Cottus, 86
hirundo, Leiccottus, 86
hirundo, Leiocottus, 86, 131, 156, 163
hirundo, Liocottus, 86
Histiocottus, 99
Histiodromus, 191
hollandi, Myctophum, 140
holti, Diaphus, 144
hopliticus, Paricelinus, 11, 111, 156
Hubbs, Carl Leavitt, 153, 168
Hypomasticus, 193, 194
hypselonotus, Abramites, 193
hypselonotus, Leporinus, 193

Icelidae, 3
Icelinus, 5, 22, 35, 156, 160
Icelinus, key to the California species, 23
Icelinus borealis, 156, 160
Icelinus burchami, 23, 29, 30, 116, 156, 160
Icelinus cavifrons, 23, 28, 116, 156, 160
Icelinus filamentosus, 23, 24, 114, 156, 160
Icelinus fimbriatus, 23, 31, 32, 117, 156, 160
Icelinus fuscescens, 30
Icelinus oculatus, 23, 33, 117, 156, 161
Icelinus quadriseriatus, 23, 35, 118, 156, 160, 205
Icelinus tenuis, 23, 26, 115, 156, 160
Icelus fenestralis, 48
Icelus lateralis, 55
Icelus megacephalus, 20
Icelus notospilotus, 48, 50
Icelus pugettensis, 20
Icelus quadriseriatus, 35

ichthys lockingtoni, 181
liacanthus, 204, 207
ndian Ocean, 137
Investigator," 137
sognathus, Schizodon, 196

ordan, David Starr, 153
ordan, David Starr, and Evermann, Barton Warren, 167, 168
ordani, Hemilepidotus, 156, 159
ordania, 4, 8, 155, 156, 157, 162
ordania zonope, 8, 9, 110, 156
ordaniidae, 3

endalli, Diaphus, 144
nerii, Anostomus, 196
nerii, Schizodon, 196

aemolyta, 186, 196
aemolyta fasciata, 197
aemolyta fernandezi, 197
aemolyta garmani, 197
aemolyta laticeps, 197
aemolyta nitens, 197
aemolyta orinocensis, 197
aemolyta proxima, 197
aemolyta taeniata, 197
aemolyta varia, 197
ahilliella, 195
ahilliella nasuta, 196
ampadena, 145
ampadena chavesi, 145
ampadena luminosa, 145
ampanyctus, 145
ampanyctus fraser-brunneri, 149, 150
Lampanyctus leucopsarus, 208
ampanyctus longipes, 150, 151
ampanyctus mexicanus, 145, 146
ampanyctus microchir, 145
ampanyctus micropterus, 145
ampanyctus nigrescens, 145
Lampanyctus photothorax, 149, 150, 151
Lampanyctus ritteri, 208
Lampanyctus steinbecki, 148
Lampanyctus stilbius, 149, 151
Lampanyctus turneri, 145, 146
lateralis, Artedius, 43, 55, 122, 156, 162
lateralis, Calycilepidotus, 50
lateralis, Icelus, 55
lateralis, Scorpaenichthys, 41, 53, 55
laternatus, Diogenichthys, 141, 142
laternatum, Myctophum, 142
laticeps, Laemolyta, 197
latifrons, Stelgidinotus, 63
latifrons, Stelgidonotus, 62, 63
latifrons, Stelginotus, 63
Lantern fishes, 137
layi, Diaphus, 144
Leiocottus hirundo, 86
Leiocottus, 5, 86, 156, 162
Leiocottus hirundo, 86, 131, 156, 163
Leporellus, 185, 187
Leporellus maculifrons, 187
Leporinodus, 187
Leporinodus retropinnis, 187
Leporinodus timbore, 187
Leporinus, 186, 193
Leporinus affinis, 197
Leporinus brunneus, 194, 195
Leporinus desmotes, 193
Leporinus ecuadoriensis, 195
Leporinus fasciatus, 195
Leporinus friderici, 195
Leporinus hypselonotus, 193
Leporinus maculatus, 195
Leporinus megalepis, 195
Leporinus mormyrops, 193
Leporinus nigrotaeniatus, 195
Leporinus novemfasciatus, 193
Leporinus pictus, 187
Leporinus striatus, 195
Leporinus vittatus, 187
Leptocottus, 4, 96, 156, 157, 158
Leptocottus armatus, 1, 96, 97, 133, 156, 157
Leptocottus armatus australis, 97
leucopsarus, Lampanyctus, 208
Leuroglossus stilbius, 204, 205, 206
lineatus, Genyonemus, 207
Liocottus, 86
Liocottus hirundo, 86
lockingtoni, Icichthys, 181
longipes, Lampanyctus, 150, 151
longleyi, Diaphus, 144
lucasi, Enophrys, 156
luminosa, Lampadena, 145
*lychnobium, Myctophum, 137
Lyopsetta exilis, 207

Mackerel, 204
macouni, Chauliodus, 208
macouni, Pterygiocottus, 45
maculatus, Leporinus, 195
maculatus, Oligocottus, 65
maculifrons, Leporellus, 187
maculosus, Centridermichthys, 65
maculosus, Oligocottus, 61, 62, 65, 67, 70, 73, 156, 162, 166
Marine Cottidae, 1
Marine Cottidae, evolution, 153
Marine Cottidae, phylogenetic tree, 156
marmoratus, Scorpaenichthys, 5, 6, 110, 155, 156

marthae, Carnegiella, 173, 174, 177, 178, 183
Medialuna, 205, 206, 207
Medicelinus, 29, 156, 160
megacephalus, Artedius, 20
megacephalus, Chitonotus, 19
megacephalus, Icelus, 20
megalepis, Leporinus, 195
Melanostigma pammelas, 204, 207
mexicanus, Lampanyctus, 145, 146
microcephalus, Abramites, 193
microchir, Lampanyctus, 145
microlepis, Rhytiodus, 193
micropterus, Lampanyctus, 145
Microstomus pacificus, 206
Miller, R. R., 203
Mola mola, 204
molli, Diaphus, 144
Montereya, 76, 168
Montereya recaiva, 79
Montereya recalva, 79
montereyensis, Raja, 206
Mormyrhynchus gronoveii, 191
mormyrops, Leporinus, 193
Myctophidae, 137
Myctophum affine, 139
Myctophum fibulatum, 139
Myctophum fibulatum proximum, 140
Myctophum hollandi, 140
Myctophum laternatum, 142
*Myctophum lychnobium, 137
Myctophum nitidulum, 139
Myctophum renschi, 140, 146
Myctophum valdiviae, 144, 146
Myctophum splendidum, 143
Myers, G. S., 181, 182, 199, 203
Myers and Böhlke, 199
Myers and Fernandez-Yepez, 190
*myersi, Carnegiella, 172, 174, 175, 183
Myocharax, 193, 194

namiyei, Enophrys, 156
Nannostomus, 196
Nanognathus borellii, 195, 196
nanus, Diaphus, 144
nasuta, Lahilliella, 196
nasutus, Schizodon, 195
Nautichthys, 4, 102, 154, 156, 157
Nautichthys oculofasciatus, 102, 136, 156, 157
Nautichthys oculo-fasciatus, 102, 136, 156, 157
Nautichthys pribilovius, 156, 157
nebulosus, Hemilepidotus, 50
Newfoundland, 199
nigrescens, Lampanyctus, 145
nigrotaeniatus, Leporinus, 195
nitens, Laemolyta, 197
nitidulum, Myctophum, 139
notospilotus, Artedius, 42, 48, 50, 121, 156, 161, 163
notospilotus, Astrolytes, 48, 50
notospilotus, Icelus, 48, 50
notospilotus, Parastrolytes, 50
novemfasciatus, Leporinus, 193
Nychtophus rafinesquii, 144
(Nyctophus) splendidum, Myctophum, 143

ocraceus, Pisaster, 204
oculatus, Icelinus, 23, 33, 117, 156, 161
oculo-fasciatus, Blepsias, 102
oculo-fasciatus, Nautichthys, 102, 136, 156, 157
Oligocottus, 5, 61, 65, 156, 162, 165, 166, 167
Oligocottus, key to the species, 62
Oligocottus acuticeps, 84
Oligocottus alaskanus, 65
Oligocottus analis, 72, 73
Oligocottus borealis, 65
Oligocottus embryum, 76, 78
Oligocottus globiceps, 76, 79, 81, 84
Oligocottus maculatus, 65
Oligocottus maculosus, 61, 62, 65, 67, 70, 73, 124, 156, 162, 166
Oligocottus rimensis, 62, 63, 123, 156, 162, 163
Oligocottus rubellio, 62, 70, 126, 156, 162
Oligocottus snyderi, 62, 67, 125, 156, 162
Oligocottus wosnessenskii, 65
orbis, Eumicrotremus, 201
orinocensis, Laemolyta, 197
orinocensis, Schizodon, 196
Orinoco, 169, 184
Orthonopias, 5, 59, 154, 156, 162
Orthonopias triacis, 59, 123, 156, 162
Oxycottus, 84, 156, 163, 167
Oxycottus acuticeps, 84
Oxycottus embryum, 78

pacificus, Microstomus, 206
pammelas, Melanostigma, 204, 207
Pantodon, flying of, 182
*panurgus, Diogenichthys, 140
Paraguay, 184
Parartedius, 53
Parartedius hankinsoni, 53, 57
Parastrolytes, 48
Parastrolytes notospilotus, 50

Paricelinus, 4, 11, 155, 156, 157, 162
Paricelinus hopliticus, 11, 111, 156
Paricelinus thaburni, 11
Paricelinus thoburni, 11
parri, Diaphus, 144
pearsoni, Anostomus, 197
Penicelinus, 31, 156, 160, 161
Peropus, 99
Peru, 169, 184
phototthorax, Lampanyctus, 149, 150, 151
pictus, Leporinus, 187
Pisaster ochraceus, 204
pinchoti, Benthosema, 140
Pimelometopon, 204, 205
Pithecocharax, 191
platae, Schizodon, 196
plicatus, Anostomus, 192
politus, Seriphus, 207
pribilovius, Nautichthys, 156, 157
profundorum, Acanthocottus, 94, 95
profundorum, Zesticelus, 95, 133, 156, 158
proxima, Laemolyta, 197
proximum, Myctophum fibulatum, 140
Pterygiocottus, 45
Pterygiocottus macouni, 45
pugetensis, Artedius, 19
pugetensis, Chitonotus, 19, 20, 113, 156, 160
pugettensis, Artedius, 19
pugettensis, Chitonotus, 19
pugettensis, Icelus, 20

quadriseriatus, Artedius, 22, 35
quadriseriatus, Icelinus, 23, 35, 118, 156, 160, 205

Radulinus, 4, 37, 156, 159, 161, 164
Radulinus, key to the species, 38
Radulinus asprellus, 37, 38, 40, 119, 156, 159
Radulinus boleoides, 38, 118, 156, 159
rafinesquii, Diaphus, 144
rafinesquii, Nychtophus, 144
Raja binoculata, 206
Raja montereyensis, 206
recaiva, Montereya, 79
recalva, Montereya, 79
recalvus, Blennicottus, 76, 79
recalvus, Clinocottus, 73, 79, 128, 156, 163, 166, 168
regani, Diaphus, 143
renschi, Myctophum, 140, 146
retropinnis, Leporinodus, 187
rhodorus, Ascelichthys, 88, 131, 156
Rhytiodus, 186, 193
Rhytiodus argenteo-fuscus, 193
Rhytiodus microlepis, 193
richardsoni, Diaphus, 144
rimensis, Oligocottus, 62, 63, 123, 156, 162, 163
rimensis, Rusciculus, 62, 63
ritteri, Lampanyctus, 208
robustus, Clypeocottus, 90, 91
rostratus, Schizodon, 196
Rubberlip, 204
rubellio, Eximia, 65, 70
rubellio, Greeleya, 70
rubellio, Oligocottus, 62, 70, 126, 156, 162
rugellio, Greeleya, 70
Ruscariops, 43, 156, 161, 162
Ruscariops creaseri, 43
Rusciculus, 62, 156, 162
Rusciculus rimensis, 62, 63
Rusulus, 73
Rusulus saburrae, 73

saburrae, Rusulus, 73
Salmo anostomus, 191
Salmo fasciatus, 193
*schereri, Carnegiella, 173, 174, 178, 183
Schizodon, 186, 195
Schizodon dissimilis, 196
Schizodon elongatus, 193
Schizodon fasciatus, 195, 196
Schizodon fasciatus corti, 196
Schizodon isognathus, 196
Schizodon knerii, 196
Schizodon nasutus, 195
Schizodon orinocensis, 196
Schizodon platae, 196
Schizodon rostratus, 196
Schizodon taeniatus, 196
Schizodon vittatus, 196
Schizodontopsis, 196
Scleroparei, 153, 164
Scorpaena, 204
Scorpaenichthyidae, 3
Scorpaenichthys, 4, 5, 154, 155, 156, 159
Scorpaenichthys lateralis, 41, 53, 55
Scorpaenichthys marmoratus, 5, 6, 110, 155, 156
Scorpaenidae, 153, 157, 158
Scorpoenichthys, 6
Sebastolobus, 157
Seriphus politus, 207
signatus, Diaphus, 143
snyderi, Dialarchus, 65, 67
snyderi, Oligocottus, 62, 67, 125, 156, 162

sordidus, Citharichthys, 205
South America, 169, 182, 184
spinosus, Calycilepidotus, 13, 15
spinosus, Eumicrotremus, 199, 201
spinosus, Hemilepidotus, 15, 111, 156, 159
splendidum, Myctophum, 143
splendidus, Diaphus, 143
Stanton, Kenneth, 203
Station records, Crocker-Stanford, 203
steinbecki, Lampanyctus, 148
Stelgidinotus latifrons, 63
Stelgidonotus, 62
Stelgidonotus latifrons, 62, 63
Stelginotus latifrons, 63
stilbius, Lampanyctus, 149, 151
stilbius, Leuroglossus, 204, 205, 206
striatus, Leporinus, 195
strigata, Carnegiella, 172, 175, 179, 180, 183
strigatus, Gasteropelecus, 179, 183
Strongylocentrotus fragilis, 204, 207
*Synaptolaemus, 185, 186, 188, 190, 198
*Synaptolaemus cingulatus, 188, 190

taeniata, Laemolyta, 197
taeniatus, Schizodon, 196
Tarandichthys, 23, 156, 160, 161
Tarandichthys cavifrons, 28
Tarandichthys filamentosis, 24
Tarandichthys filamentosus, 24
Tarandichthys tenuis, 26
Tarandichthys tenus, 26
Tarletonbeania crenularis, 208
taurinus, Aspicottus, 93
taurinus, Enophrys, 91, 93, 132, 156, 158
Temnistia, 13
Temnistia ventricosa, 17
tenuis, Icelinus, 23, 26, 115, 156, 160
tenuis, Tarandichthys, 26
tenus, Tarandichthys, 26
*terrae-novae, Eumicrotremus, 199, 200
thaburni, Pariscelinus, 11
theta, Diaphus, 144
thoburni, Alcidea, 11
thoburni, Paricelinus, 11
Thoracocharax, habitat of, 182
tilesii, Hemilepidotus, 17
timbore, Leporinodus, 187
Trachinus cirrhosus, 99
trachurus, Cottus, 17
trachurus, Hemilepidotus, 17
triacis, Orthonopias, 59, 123, 156, 162
trilobus, Blepsias, 99
trimaculatus, Anostomus, 192
turneri, Lampanyctus, 145, 146

ucayalensis, Anostomus, 192
Uruguay, 184
uter, Cephaloscyllium, 204

valdiviae, Myctophum, 144, 146
valdiviae, Vestula, 145, 146
Vampyroteuthis heathi, 203, 204
varia, Laemolyta, 197
variabilis, Eumicrotremus, 202
Venezuela, 169, 184
ventricosa, Temnistia, 17
ventricosus, Blepsias, 13, 17
*Vestula, 144
Vestula valdiviae, 145, 146
Vision, posterolateral, in Gnathodolus, 190
vittatus, Leporinus, 187
vittatus, Schizodon, 196

wosnessenskii, Oligocottus, 65

Xantocles frenatus, 205
Xeneretmus, 157

Zaca, yacht, 203
zapus, Hemilepidotus, 156, 159
Zesticelus, 5, 94, 156, 157, 158, 164
Zesticelus bathybius, 156, 158
Zesticelus profundorum, 95, 133, 156, 158
zonope, Jordania, 8, 9, 110, 156
zyopterus, Galeorhinus, 204